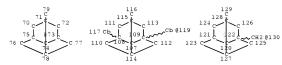
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L2

20 SEA FILB-REGISTRY ABB=ON PLU-ON (108-46-3/BI OR 110-87-2/BI OR 125748-07-4/BI OR 155281-11-7/BI OR 1927-95-3/BI OR 211427-96-4-4/BI OR 24424-99-5/BI OR 29555-94-8/BI OR 29564-55-5/BI OR 29564-55-5/BI OR 29564-55-5/BI OR 29564-59-4/BI OR 623-05-2/BI OR 633227-73-9/BI OR 623-05-2/BI OR 633227-74-9/BI OR 683227-73-8/BI OR 683227-74-9/BI OR 683227-76-1/BI OR 683227-76-1/

L9

Page 1-A



Page 2-A VAR G1=47/60/73/119/130 NODE ATTRIBUTES: DEFAULT MLEVEL IS ATOM DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES: RSPEC I NUMBER OF NODES IS 67

STEREO ATTRIBUTES: NONE



VAR G2=73/97/134/121 NODE ATTRIBUTES: DEFAULT MLEVEL IS ATOM DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

NUMBER OF NODES IS 51

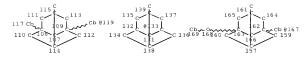
STEREO ATTRIBUTES: NONE

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L18 1 SEA FILE=REGISTRY ABB=ON PLU=ON L16 AND L2
L21 STR

Page 1-A

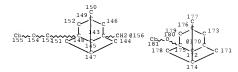
130

# Page 1-B



Page 2-A

### Page 2-B



Page 3-A VAR G1=47/60/73/119/130 VAR G2=CB/133/167/156/170 REP G3=(0-1) O NODE ATTRIBUTES: DEFAULT MLEVEL IS ATOM DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES: RSPEC I

NUMBER OF NODES IS 120

### STEREO ATTRIBUTES: NONE

L23 87 SEA FILE=REGISTRY SUB=L16 SSS FUL L21 L24 1 SEA FILE-HCAPLUS ABB-ON PLU-ON L18 L28 17316 SEA FILE=REGISTRY ABB=ON PLU=ON 11417.1/RID L29 56 SEA FILE=REGISTRY ABB=ON PLU=ON L23 NOT L28 L30 16 SEA FILE-HCAPLUS ABB-ON PLU-ON L29 L31 17 SEA FILE-HCAPLUS ABB-ON PLU-ON L30 OR L24

=> fil hcap

FILE 'HCAPLUS' ENTERED AT 11:49:52 ON 19 NOV 2008

USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.

### 10/531.208

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This file contains CAS Registry Numbers for easy and accurate substance identification.

=> d 131 1-17 ibib ed abs hitstr hitind

L31 ANSWER 1 OF 17 HCAPLUS COPYRIGHT 2008 ACS on STN ACCESSION NUMBER: 2008:1068852 HCAPLUS Full-text

DOCUMENT NUMBER: 149:333530

TITLE: Organic insulating materials with low dielectric

constant and high mechanical strength and heat resistance, varnish for organic insulating films

and semiconductor device using them

INVENTOR(S): Matsutani, Mihoko; Izumi, Atsushi; Sano, Yohko;

Fujita, Kazuyoshi

PATENT ASSIGNEE(S): Sumitomo Bakelite Co., Ltd., Japan

SOURCE: PCT Int. Appl., 103pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent
LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.				KIND DATE			APPLICATION NO.					DATE				
WO 2008105551			A1 20080904			WO 2008-JP53722										
	W:	ΑE,	AG,	AL,	AM,	AO,	AT,	AU,	AZ,	BA,	BB,	BG,	BH,	BR,	BW,	BY,
		BZ,	CA,	CH,	CN,	CO,	CR,	CU,	CZ,	DE,	DK,	DM,	DO,	DZ,	EC,	EE,
		EG,	ES,	FI,	GB,	GD,	GE,	GH,	GM,	GT,	HN,	HR,	HU,	ID,	IL,	IN,
		IS,	JP,	KE,	KG,	KM,	KN,	KP,	KR,	KZ,	LA,	LC,	LK,	LR,	LS,	LT,
		LU,	LY,	MA,	MD,	ME,	MG,	MK,	MN,	MW,	MX,	MY,	MZ,	NA,	NG,	NI,
		NO,	NZ,	OM,	PG,	PH,	PL,	PT,	RO,	RS,	RU,	SC,	SD,	SE,	SG,	SK,
		SL,	SM,	SV,	SY,	ΤJ,	TM,	TN,	TR,	TT,	TZ,	UA,	UG,	US,	UZ,	VC,
		VN,	ZA,	ZM,	zw											
	RW:	ΑT,	BE,	BG,	CH,	CY,	CZ,	DE,	DK,	EE,	ES,	FΙ,	FR,	GB,	GR,	HR,
		HU,	IE,	IS,	IT,	LT,	LU,	LV,	MC,	MT,	NL,	NO,	PL,	PT,	RO,	SE,
		SI,	SK,	TR,	BF,	ВJ,	CF,	CG,	CI,	CM,	GA,	GN,	GQ,	GW,	ML,	MR,
		NE,	SN,	TD,	TG,	BW,	GH,	GM,	KE,	LS,	MW,	MZ,	NA,	SD,	SL,	SZ,
		TZ,	UG,	ZM,	ZW,	AM,	AZ,	BY,	KG,	KZ,	MD,	RU,	ΤJ,	TM		

# 10/531,208

PRIORITY APPLN. INFO.: JP 2007-48890 A 20070228

JP 2007-309715 A 20071130

ED Entered STN: 05 Sep 2008

AB The materials contain a compound represented by X-V-(W)n-Y (X,Y=groups polymerizable groups; V,W=group having an adamantane or polyadamantane structure; n=0 or an integer not less than 1), its polymer or its mixture with the polymer.

IT 1052275-39-4P

(manufacture of adamantyl structure-containing compds. for use in elec. insulating films or semiconductor devices with low dielec. constant and high mech. strength and heat resistance)

RN 1052275-39-4 HCAPLUS

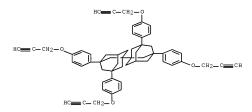
CN 1,1'-Bitricyclo[3.3.1.13,7]decane,

3,3',5,5'-tetrakis[4-(2-propyn-1-yloxy)phenyl]-, homopolymer (CA INDEX NAME)

CM 1

CRN 952428-06-7

CMF C56 H54 O4



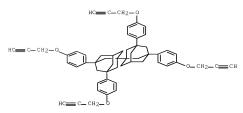
### IT 953428-06-7P

(manufacture of adamantyl structure-containing compds. for use in elec. insulating films or semiconductor devices with low dielec. constant and high mech. strength and heat resistance)

RN 952428-06-7 HCAPLUS

CN 1,1'-Bitricyclo[3.3.1.13,7]decane,

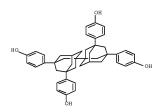
3,3',5,5'-tetrakis[4-(2-propyn-1-yloxy)phenyl]- (CA INDEX NAME)



IT 916645-89-1

(manufacture of adamantyl structure-containing compds. for use in elec. insulating films or semiconductor devices with low dielec. constant and high mech. strength and heat resistance)

- RN 916645-89-1 HCAPLUS
- CN Phenol, 4,4',4'',4'''-[1,1'-bitricyclo[3.3.1.13,7]decane]-3,3',5,5'tetravltetrakis- (CA INDEX NAME)



CC 38-3 (Plastics Fabrication and Uses)

IT 134334-31-9P 923295-04-9P 930306-46-0P 954144-92-4P 1052275-27-0P 1052275-31-6P 1052275-34-9P 1052275-39-4P 1052275-73-0P 1052275-73-68-69 1052275-73-6P 1052275-73-6P 1052275-91-8P 1052275-91-8P 1052275-91-8P

(manufacture of adamantyl structure-containing compds. for use in elec. insulating films or semiconductor devices with low dielec. constant and high mech, strength and heat resistance)

- IT 941-37-7P, 1-Bromo-3,5-dimethyladamantane 3732-31-8P,
  - 1,1'-Biadamantane 63263-14-9P 134334-26-2P,
  - 4,9-Diethynyldiamantane 150785-12-9P 923295-03-8P 930306-44-8P
  - 942936-15-4P 951694-69-2P 951694-70-5P 951694-72-7P
  - 952428-02-3P 952428-04-5P 952428-05-6P 952428-06-7P
  - 952428-07-8P 954144-91-3P 1052275-47-4P 1052275-54-3P

# 10/531,208

1052275-58-7P 1052275-71-4P 1052275-75-8P 1052275-77-0P 1052275-85-0P 1052275-89-4P 1052275-89-4P 1052275-95-2P (manufacture of adamantyl structure-containing compds, for use in elec. insulating films or semiconductor devices with low dielec. constant

and high mech. strength and heat resistance)

74-88-4, Methyl iodide, reactions 106-96-7, 3-Bromo-1-propyne 108-36-1, 1,3-Dibromobenzene 108-86-1, Bromobenzene, reactions

536-74-3, Ethynylbenzene 593-60-2, Bromoethene 768-90-1,

1-Bromoadamantane 1066-54-2, Trimethylsilylacetylene 30545-30-3, 4-Bromodiamantane 30651-02-6, 4,9-Dibromodiamantane 63263-17-2

894105-73-8 897442-61-4 916645-89-1 952428-03-4

1052275-61-2 1052275-63-4

(manufacture of adamantyl structure-containing compds. for use in elec. insulating films or semiconductor devices with low dielec. constant and high mech. strength and heat resistance)

REFERENCE COUNT: 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR

THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L31 ANSWER 2 OF 17 HCAPLUS COPYRIGHT 2008 ACS on STN ACCESSION NUMBER: 2008:156259 HCAPLUS Full-text

DOCUMENT NUMBER: 148:216921

TITLE: Benzoxazole precursors, resin compositions and coating varnishes using them, resin films

therefrom, and semiconductor devices having the

films

INVENTOR(S): Yamanoi, Yumiko; Izumi, Atsushi

PATENT ASSIGNEE(S): Sumitomo Bakelite Co., Ltd., Japan SOURCE: Jpn. Kokai Tokkyo Koho, 24pp.

CODEN: JKXXAF DOCUMENT TYPE: Patent LANGUAGE . Japanese

FAMILY ACC. NUM. COUNT: 1 PATENT INFORMATION:

PATENT NO. KIND DATE APPLICATION NO. DATE 20060725 JP 2008024900 A 20080207 JP 2006-202347 JP 2006-202347 PRIORITY APPLN. INFO.: 20060725

ED Entered STN: 07 Feb 2008

AB Title precursors consist of aromatic compds. having aminohydroxyphenyl groups, CO2H, and diamondoid structures. Title varnishes show good storage stability and form films with low dielec. constant Thus, 3-(3-amino-4-hydroxyphenyl)-3'-carboxy(5,5',7,7'-tetramethyl-1,1'- biadamantane) (prepared from 1-bromo-3,5-dimethyladamantane in several steps) was dissolved in N-methyl-2pyrrolidone, mixed with pyridine and tri-Ph phosphite, and stirred at -15° to a room temperature for 3 h to give a polybenzoxazole precursor, which was dissolved in N-methyl-2-pyrrolidone, filtered, applied on a Si wafer, and heated stepwise to give a film showing Tg 380°, 5% weight-loss temperature 523°, and sp. inductive capacity 2.3.

920511-53-1P, 3,3',5,5'-Tetrakis(3-amino-4-hydroxyphenyl)-1,1'-TT biadamantane

(benzoxazole precursors for coating varnishes for semiconductor devices)

920511-53-1 HCAPLUS RN

CN Phenol, 4,4',4'',4'''-[1,1'-bitricvclo[3.3.1.13,7]decane]-3,3',5,5'tetrayl]tetrakis[3-amino- (CA INDEX NAME)

TТ

CC 42-10 (Coatings, Inks, and Related Products) Section cross-reference(s): 76

150785-12-9P, 3,3',5,5'-Tetrabromo-1,1'-biadamantane 866755-59-1P, 1-Trifluoromethanesulfonyloxy-4-(3,5-dimethyl-1-adamantyl)benzene 866755-61-5P, 1-Ethynyl-4-(3,5-dimethyl-1-adamantyl)benzene 890404-31-6P, 1,3-Bis[4-(3-hydroxy-4-aminophenoxy)]-4,6-bis(3,5dimethvl-1-adamantyl)benzene 894105-70-5P 903892-76-2P. 5,5',7,7'-Tetramethyl-1,1'-biadamantyl-3-carboxylic acid 920511-53-1P, 3,3',5,5'-Tetrakis(3-amino-4-hydroxyphenyl)-1,1'-920511-55-3P, 4,6-Bis(3,5-dimethyladamantyl)resorcinol biadamantane 920742-31-0DP, 2-Amino-4-(3,5-dimethyl-1-adamantyl)phenol, reaction products with (aminohydroxyphenyl)carboxy(tetramethylbiadamantane) homopolymer 920742-31-0P, 2-Amino-4-(3,5-dimethyl-1-adamantyl)phenol 1004764-98-0P, Methyl 3-bromo-5,5',7,7'-tetramethyl-1,1'-biadamantyl-3'-carboxylate 1004764-99-1P, 3-(3-Amino-4-hydroxy)phenyl-3'-carboxy-5,5',7,7'-tetramethyl-1,1'biadamantane 1004765-03-0DP, 4-[[4-(3,5-Dimethyl-1-adamantyl)phenyl]ethynyl]benzoic acid, reaction products with (aminohydroxyphenyl)carboxy(tetramethylbiadamantane) homopolymer 1004765-03-0P, 4-[[4-(3,5-Dimethyl-1-

41826-66-8P, 1,1'-Biadamantyl-3,3',5,5'-tetracarboxylic acid

adamantyl)phenyl]ethynyl]benzoic acid 1004765-04-1P, 2,4-Bis(3,5-dimethyl-1-adamantyl)-1-hydroxy-5-methoxybenzene 1004765-05-2P, 1-Hydroxy-3-(4-carboxyphenoxy)-4,6-bis(3,5-dimethyl-1-adamantyl)benzene 1004765-06-3P,

1,3-Bis(3,5-dimethyl-1-adamantyl)-4-(4-amino-3-hydroxyphenoxy)-6-(4-carboxyphenoxy)benzene

(benzoxazole precursors for coating varnishes for semiconductor devices)

L31 ANSWER 3 OF 17 HCAPLUS COPYRIGHT 2008 ACS on STN ACCESSION NUMBER: 2007:1174641 HCAPLUS Full-text

DOCUMENT NUMBER: 147:448465

TITLE: Preparation of biadamantanes bearing acetylene

bonds

INVENTOR(S): Fujita, Kazuyoshi; Izumi, Atsushi; Harada,

Takahiro

PATENT ASSIGNEE(S): Sumitomo Bakelite Co., Ltd., Japan SOURCE: Jpn. Kokai Tokkyo Koho, 10pp.

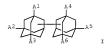
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2007269727	A	20071018	JP 2006-99427	20060331
PRIORITY APPLN. INFO.:			JP 2006-99427	20060331

OTHER SOURCE(S): CASREACT 147:448465; MARPAT 147:448465 ED Entered STN: 18 Oct 2007

ED Entered S1



AB The biadamantanes I (Al-A6 = organic group, acetylene bond-containing group; ≥2 of Al-A6 = acetylene bond-containing group), useful for heat-resistant elec. insulating films with low dielec. constant for semiconductor devices (no data), are prepared Thus, 3,3'-dihydroxy-5,5',7,7'-tetramethyl-1,1'-biadamantane was treated with 3-bromo-1-propyne to give 3,3',5,5'-tetramethyl-7,7'-bis(2-propynyloxy)-1,1'-biadamantane.

IT 916645-89-1

(preparation of biadamantanes bearing acetylene bonds for heat-resistant elec. insulating films with low dielec. constant for semiconductor devices)

RN 916645-89-1 HCAPLUS

CN Phenol, 4,4',4'',4'''-[1,1'-bitricyclo[3.3.1.13,7]decane]-3,3',5,5'-tetrayltetrakis- (CA INDEX NAME)

IT 952428-06-7P

(preparation of biadamantanes bearing acetylene bonds for heat-resistant elec. insulating films with low dielec. constant for semiconductor devices)

952428-06-7 HCAPLUS RN

CN 1,1'-Bitricyclo[3.3.1.13,7]decane,

3,3',5,5'-tetrakis[4-(2-propyn-1-yloxy)pheny1]- (CA INDEX NAME)

24-8 (Alicyclic Compounds)

Section cross-reference(s): 35, 76

106-96-7, 3-Bromo-1-propyne 63263-17-2 897442-61-4 916645-89-1 942936-15-4 952428-03-4

(preparation of biadamantanes bearing acetylene bonds for heat-resistant elec. insulating films with low dielec. constant for semiconductor devices)

952428-02-3P 952428-04-5P 952428-05-6P 952428-06-7P 952428-07-8P

(preparation of biadamantanes bearing acetylene bonds for heat-resistant elec. insulating films with low dielec. constant for semiconductor devices)

L31 ANSWER 4 OF 17 HCAPLUS COPYRIGHT 2008 ACS on STN ACCESSION NUMBER: 2007:1116320 HCAPLUS Full-text

DOCUMENT NUMBER: 147:428949

TITLE: Resin compositions with good heat resistance and

low dielectric constant for varnish and

semiconductor devices

Fujita, Kazuvoshi; Izumi, Atsushi; Yamanoi,

Yumiko; Harada, Takahiro; Oki, Hiromi; Ono,

Yukiharu

PATENT ASSIGNEE(S): Sumitomo Bakelite Company, Ltd., Japan

PCT Int. Appl., 115pp. SOURCE:

CODEN: PIXXD2

DOCUMENT TYPE: Pat.ent. LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

INVENTOR(S):

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2007111168	A1	20071004	WO 2007-JP55431	20070316

### 10/531.208

ED Entered STN: 04 Oct 2007

$$\begin{array}{c|c} R1 & R2 & R5 & R6 \\ \hline \\ R_1 & R_2 & R_3 & R_8 & R_8 & R_8 \end{array}$$

AB The title resin compns. comprise a compound having a structure I and a crosslinking agent, wherein R0 = single bond or YAr(R0)qY; R1-8 = independently H, alicyclic group, C1-10 organic group excluding alicyclic group, OH, or carboxyl group; X = O, NHCO, CONH, COO, or COC; Y = single bond, O, S, OCO, or COO; q = ≥1 integer; and R9 = H or C≥1 organic group (at least of one of R1 to R8 = alicycl9,9-bis(3-(4-phenylethynylbenzamido)-4hydroxyphenyl)-fluorenic group when R0 = single bond, and at least one of R1 to R9 = alicyclic group when R0 = YAr(R0)qY). Thus, 84.8 g 1-bromo-3,5dimethyladamantane and 9.58 g 1,3-dihydroxybenzene were reacted at 130° for 24 h, further reacted with 2-benzyloxy-4-fluoronitrobenzene at 135° for 12 h, and debenzylated to give 4,6-di(3,5-dimethyl-1-adamantyl)-1,3-bis(4-amino-3hydroxyphenoxy)benzene, 0.10 mol of which was copolymd. with 0.095 mol 5,5',7,7'-tetramethyl-1,1'-biadamantane-3,3'-dicarboxylic dianhydride to give a benzoxazole precursor with Mn 21,000, 0.9 g of which was mixed with 0.1 g 9,9-bis(3-(4-phenylethynylbenzamido)-4- hydroxyphenyl)-fluorene in NMP, applied on a silicon wafer, and dried at 90° for 1 min and 400° for 1 h to give a coating, showing glass transition temperature 401°, thermal decomposition temperature 482°, dielec. constant 2.5, and elastic modulus 7.1 GPa.

IT 951694-39-6P 951694-63-6P 951694-64-7P

(intermediate in monomer preparation; resin compns. containing adamantane structure-containing polybenzoxazoles or polyimides)

RN 951694-39-6 HCAPLUS

N 1,1'-Bitricyclo[3.3.1.13,7]decane,

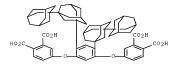
3,3''-[6,6'-bis[4-nitro-3-(phenylmethoxy)phenoxy][1,1'-biphenyl]-3,3'-divl]bis- (CA INDEX NAME)

RN 951694-63-6 HCAPLUS

CN 1,2-Benzenedicarboxylic acid, 4,4'-[[4,6-bis([1,1'-bitricyclo[3,3.1.3,7]decan]-3-yl)-1,3-phenylene]bis(oxy)]bis-,
1,1',2,2'-tetramethyl seter (CA INDEX NAME)

RN 951694-64-7 HCAPLUS CN 1,2-Benzenedicarboxy

1,2-Benzenedicarboxylic acid, 4,4'-[[4,6-bis([1,1'-bitricyclo[3.3.1.13,7]decan]-3-yl)-1,3-phenylene]bis(oxy)]bis- (CA INDEX NAME)



IT 850404-08-7P 942203-46-5P 951694-29-4P

951694-40-9P 951694-56-7P

(monomer; resin compns. containing adamantane structure-containing

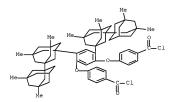
# 10/531,208

polybenzoxazoles or polyimides)

- RN 890404-08-7 HCAPLUS
- CN Phenol, 3,3'-[[4,6-bis([1,1'-bitricyclo[3.3.1.13,7]decan]-3-y1)-1,3phenylene]bis(oxy)]bis[6-amino- (CA INDEX NAME)

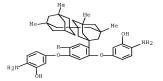


- RN 942203-46-5 HCAPLUS
- CN Benzoyl chloride, 4,4'-[[4,6-bis(3',5,5',7-tetramethyl[1,1'-bitricyclo[3.3.1.13,7]decan]-3-yl)-1,3-phenylene]bis(oxy)]bis- (CA INDEX NAME)



- RN 951694-29-4 HCAPLUS
- CN Phenol, 3,3'-[[4,6-bis(3',5,5',7-tetramethyl[1,1'bitricyclo[3,3,1,13,7]decan]-3-yl)-1,3-phenylene]bis(oxy)]bis[6-amino(CA INDEX NAME)

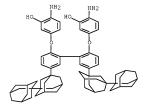
PAGE 1-A



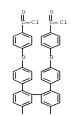
PAGE 2-A



- RN 951694-40-9 HCAPLUS
- CN Pheno1, 3,3'-[[5,5'-bis([1,1'-bitricyclo[3.3.1.13,7]decan]-3-y1)[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis[6-amino- (CA INDEX NAME)



- RN 951694-56-7 HCAPLUS
- CN Benzoyl chloride, 4,4'-[(4',5''-bis([1,1'-bitricyclo[3.3.1.13,7]decan]3-yl)(1,1':2',1'':-quaterphenyl]-4,4'''-diyl]bis(oxy)]bis(CA INDEX NAME)







- IT 951694-47-6
  - (monomer; resin compns. containing adamantane structure-containing polybenzoxazoles or polyimides)
- RN 951694-47-6 HCAPLUS
- CN Benzoyl chloride, 4,4'-[[4,6-bis([1,1'-bitricyclo[3.3.1.13,7]decan]-3-yl)-1,3-phenylene]bis(oxy)]bis- (CA INDEX NAME)







PAGE 2-A

IT 951695-48-0P 951695-57-1P 951695-78-6P 951695-79-7P

(precursor; resin compns. containing adamantane structure-containing polybenzoxazoles or polyimides)

RN 951695-48-0 HCAPLUS CN Benzoyl chloride, 4,

Benzoyl chloride, 4,4'-[[4,6-bis(5,5',7,7'-tetramethyl[1,1'-bitricyclo[3.3.1.13,7]decan]-3-yl)-1,3-phenylene]bis(oxy)]bis-, polymer with 3,3'-[[4,6-bis(3,5-dimethyltricyclo[3.3.1.13,7]dec-1-yl)-1,3-phenylene]bis(oxy)]bis[6-aminophenol] (CA INDEX NAME)

CM 1

CRN 942203-46-5

CMF C68 H84 C12 O4

CM

CRN 890404-31-6

CMF C42 H52 N2 O4

$$\begin{array}{c} Me \\ Me \\ Me \\ H_2 H \\ \end{array}$$

RN 951695-57-1 HCAPLUS

CN Benzoyl chloride, 4,4'-[[4,6-bis(5,5',7,7'-tetramethyl[1,1'-bitricyclo[3.3.1.13,7]decan]-3-yl]-1,3-phenylene]bis(oxy)]bis-,
polymer with 4,4'-(9H-fluoren-9-ylidene)bis[2-aminophenol] (CA INDEX NAME)

CM 1

CRN 942203-46-5 CMF C68 H84 C12 O4

CM 2

CRN 20638-07-7 CMF C25 H20 N2 O2

CMF C25 H20 N2 O2

- RN 951695-78-6 HCAPLUS
- CN Poly[oxy[4,6-bis(3,5-dimethyltricyclo[3.3.1.13,7]dec-1-y1)-1,3phenylene]oxy(3-hydroxy-1,4-phenylene)iminocarbonyl-1,4phenyleneoxy[4,6-bis(3',5,5',7-tetramethyl[1,1'-bitricyclo[3.3.1.13,7]decan]-3-y1)-1,3-phenylene) coxy-1,4phenylenecarbonylimino(2-hydroxy-1,4-phenylene) (CA INDEX NAME)

PAGE 1-B

- RN 951695-79-7 HCAPLUS
- CN Poly[oxy[4,6-bis(3',5,5',7-tetramethyl[1,1'-bitricyclo[3,3.1.13,7]decan]-3-yl)-1,3-phenylene]oxy-1,4-phenylenecarbonylimino(6-hydroxy-1,3-phenylene)-9H-fluoren-9-ylidene(4-hydroxy-1,4-phenylene) iminocarbonyl-1,4-phenylene) (CA INDEX NAME)

# 10/531,208

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*
IT 951695-50-4P 951695-59-3P

(resin compns. containing adamantane structure-containing polybenzoxazoles
or polyimides)

RN 951695-50-4 HCAPLUS

CN Benzoyl chloride, 4,4'-[[4,6-bis(3',5,5',7-tetramethyl[1,1'-bitricyclo[3,3.1.13,7]decan]-3-yl)-1,3-phenylene]bis(oxy)]bis-, polymer with 3,3'-bis(3,5-diethynylphenyl)-5,5',7,7'-tetramethyl-1,1'-bitricyclo[3.3.1.13,7]decane and

3,3'-[[4,6-bis(3,5-dimethyltricyclo[3.3.1.13,7]dec-1-yl)-1,3-phenylene]bis(oxy)]bis[6-aminophenol] (CA INDEX NAME)

CM

1

CRN 942203-46-5 CMF C68 H84 C12 O4

CM

CRN 930306-44-8 CMF C44 H46

CM 3

CRN 890404-31-6 CMF C42 H52 N2 O4

$$\begin{array}{c} \text{Me} \\ \text{Me} \\ \text{H}_2 \text{N} \\ \text{H}_3 \\ \text{H}_4 \\ \text{N} \\ \text{H}_2 \\ \text{H}_3 \\ \text{H}_4 \\ \text{H}_5 \\ \text{H}_6 \\ \text{H}_{10} \\ \text{H}_{1$$

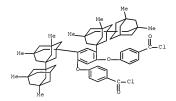
RN 951695-59-3 HCAPLUS

CN Benzoyl chloride, 4,4'-[[4,6-bis(5,5',7,7'-tetramethyl[1,1'-bitricyclo[3.3.1.13,7]decan]-3-yl)-1,3-phenylene]bis(oxy)]bis-,
polymer with 3,3'-bis(3,5-dlethynylphenyl)-5,5',7,7'-tetramethyl-1,1'-bitricyclo[3.3.1.13,7]decane and
4,4'-(9H-fluoren-9-ylidene)bis[2-aminophenol] (CA INDEX NAME)

CM

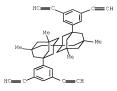
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CRN 942203-46-5 CMF C68 H84 C12 O4



CM 2

CRN 930306-44-8 CMF C44 H46



CM 3

CRN 20638-07-7 CMF C25 H20 N2 O2

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CC 42-10 (Coatings, Inks, and Related Products)
    Section cross-reference(s): 35, 76
IT 367279-75-2P 406680-57-7P 722454-63-9P
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866755-28-4P 866755-29-5P 866755-30-8P 890404-11-2P 890404-15-6P 890404-12-3P 897442-61-4P 944111-44-8P 944111-45-9P 951694-28-3P 951694-33-0P 951694-34-1P 951694-35-2P 951694-36-3P 951694-39-6P 951694-41-0P 951694-50-1P 951694-59-0P 951694-44-3P 951694-45-4P

951694-60-3P 951694-63-6P 951694-64-7P

(intermediate in monomer preparation; resin compns. containing adamantane structure-containing polybenzoxazoles or polyimides)

846543-81-5P

II 846543-82-6P, 9,9-Bis(3-amino-4-hydroxyphenyl)-2,7-

bis(phenylethynyl)fluorene 866755-31-9P 890404-07-6P 890404-08-7P 890404-13-4P 890404-16-7P 890404-31-6P 890404-39-4P 911222-12-3P 930306-33-5P 942203-43-2P 942203-44-3P 942203-46-5P 951694-29-4P 951694-31-8P 951694-37-4P 951694-38-5P 951694-40-9P 951694-42-1P 951694-43-2P 951694-51-2P 951694-53-4P 951694-54-5P 951694-55-6P 951694-56-7P 951694-57-8P 951694-65-8P 951694-58-9P 951694-61-4P

(monomer; resin compns. containing adamantane structure-containing

polybenzoxazoles or polyimides)

IT 951694-47-6

(monomer; resin compns. containing adamantane structure-containing polybenzoxazoles or polyimides)

IT 951694-79-4P 951694-84-1P 951694-90-9P 951694-95-4P 951694-97-6P 951695-13-9P 951695-17-3P 951695-22-0P

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10/531.208
    951695-27-5P 951695-29-7P 951695-35-5P 951695-39-9P
    951695-44-6P 951695-48-0P 951695-52-6P
    951695-57-1P 951695-61-7P 951695-64-0P 951695-66-2P
    951695-67-3P 951695-69-5P 951695-71-9P 951695-73-1P
    951695-75-3P 951695-77-5P 951695-78-6P
    951695-79-7P 951695-80-0P 951775-18-1P
       (precursor; resin compns. containing adamantane structure-containing
       polybenzoxazoles or polyimides)
IT 951694-80-7P 951694-82-9P 951694-86-3P 951694-88-5P
    951694-92-1P 951694-94-3P 951694-96-5P 951694-98-7P
    951695-00-4P 951695-02-6P 951695-03-7P 951695-05-9P
    951695-07-1P 951695-09-3P 951695-11-7P 951695-19-5P
    951695-25-3P 951695-28-6P 951695-32-2P 951695-41-3P
    951695-46-8P 951695-50-4P 951695-55-9P
    951695-59-3P 951695-63-9P
       (resin compans, containing adamantane structure-containing polybenzoxazoles
       or polvimides)
REFERENCE COUNT:
                      12
                            THERE ARE 12 CITED REFERENCES AVAILABLE FOR
                             THIS RECORD. ALL CITATIONS AVAILABLE IN THE
                             RE FORMAT
L31 ANSWER 5 OF 17 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2007:813886 HCAPLUS Full-text
DOCUMENT NUMBER:
                      147:166774
                      Bis(aminophenols) having diamondoid structure for
TITLE:
                      low dielectric polymers
INVENTOR(S):
                      Izumi, Atsushi; Yamanoi, Yumiko; Murata, Mitsuru
INVENTOR(s): 120ml, Account, 120ml, Account, PATENT ASSIGNEE(S): Sumitomo Bakelite Co., Ltd., Japan
SOURCE:
                      Jpn. Kokai Tokkyo Koho, 23pp.
                       CODEN: JKXXAF
DOCUMENT TYPE:
                      Patent
LANGUAGE .
                       Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:
    PATENT NO. KIND DATE APPLICATION NO. DATE
                      ____
    JP 2007186493 A 20070726 JP 2006-255129 20060921 RITY APPLN. INFO.: JP 2005-359823 A 20051214
PRIORITY APPLN. INFO.:
ED Entered STN: 26 Jul 2007
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OTHER	SOURCE (S)	:	MARPAT	147:166774

- AB Title compds, comprise diamondoid groups substituted with 2 aminohydroxyphenyl groups. Thus, etherification of 3,3'-dibromo-1,1'-biadamantane with PhOH gave 93.7% 3,3'-bis(4-hydroxyphenyl)-1,1'-biadamantane, which was nitrated with and aqueous HNO3 and hydrogenated over Pd/C to give 3,3'-bis(3-amino-4-
- hydroxyphenyl)-1,1'-biadamantane, which had specific dielec. constant 2.8. 944111-48-2P, [2,2-Bis[4-(4-amino-3-hydroxyphenoxy)-3-[7-
- [3,3',5,5'-tetramethyl-1,1'-biadamantyl]]phenyl]adamantane
  - 944111-49-3P, [3,3'-Bis[3-(3,5-dimethyl-1-adamantyl)-4-(4amino-3-hydroxyphenoxy)phenyl]-5,5',7,7'-tetramethyl-1,1'-biadamantane

(manufacture of adamantanes substituted with 2 aminohydroxyphenyl groups having diamondoid structure for low dielec. polymers)

944111-48-2 HCAPLUS RN

Phenol, 3,3'-[tricyclo[3.3.1.13,7]dec-2-ylidenebis[[2-(3',5,5',7tetramethyl[1,1'-bitricyclo[3.3.1.13,7]decan]-3-y1)-4,1phenyleneloxy||bis|6-amino- (CA INDEX NAME)

PAGE 2-A

RN 944111-49-3 HCAPLUS

CN Phenol, 3,3'-[(5,5',7,7'-tetramethyl[1,1'bitricyclo[3.3.1.13,7]decane]-3,3'-diyl)bis[[2-(3,5-

dimethyltricyclo(3.3.1.13,7)dec-1-yl)-4,1-phenylene]oxy]]bis[6-amino-(CA INDEX NAME)

PAGE 2-A

35-2 (Chemistry of Synthetic High Polymers) Section cross-reference(s): 25

ΤТ 897442-30-7P, 3,3'-Bis(3-amino-4-hydroxyphenyl)-1,1'-biadamantane 897442-63-6P, [3,3'-Bis(3-amino-4-hydroxyphenyl)-5,5',7,7'-tetramethyl-1,1'-biadamantane 897442-69-2P. [3,3'-Bis[4-(4-amino-3-hydroxyphenoxy)phenyl]-1,1'-biadamantane 897442-72-7P, [3,3'-Bis[4-[6-(1-adamantyl)-4-amino-3hydroxyphenoxy]phenyl]-1,1'-biadamantane 897442-80-7P, 3,3'-Bis[4-(4-amino-3-hydroxyphenoxy)pheny1]-5,5',7,7'-tetramethyl-1,1'-biadamantane 897442-86-3P, [3,3'-Bis[4-[4-amino-3-hydroxy-6-(3,5-dimethyl-1adamantyl)phenoxy[phenyl]-5,5',7,7'-tetramethyl-1,1'-biadamantane 930306-33-5P, [3,3'-Bis[3-amino-4-hydroxy-5-(3,5-dimethyl-1adamantvl)phenvll-5,5',7,7'-tetramethvl-1,1'-biadamantane 930306-35-7P, [3,3'-Bis[3-amino-4-hydroxy-5-[3-(5,5',7,7'-tetramethyl)-1,1'-biadamantyl]phenyl]-5,5',7,7'-tetramethyl-1,1'biadamantane 930306-37-9P, [2,2-Bis[5-amino-4-hydroxy-3-(3,5-dimethyl-1adamantyl)phenyl]adamantane 930306-39-1P,

[2,2-Bis[5-amino-4-hydroxy-3-[7-[3,3',5,5'-tetramethyl-1,1'-

biadamantyl]]phenyl]adamantane 944111-46-0P,

### 10/531.208

[2,2-Bis[4-(4-amino-3-hydroxyphenoxy)-3-(3,5-dimethyl-1adamantyl)phenyl]adamantane 944111-47-1P,

[2,2-Bis[4-[4-amino-5-hydroxy-2-(3,5-dimethyl-1-adamantyl)phenoxy]-3-

(3,5-dimethyl-1-adamantyl)phenyl]adamantane 944111-48-2P,

[2,2-Bis[4-(4-amino-3-hydroxyphenoxy)-3-[7-[3,3',5,5'-tetramethyl-1,1'biadamantyl]]phenyl]adamantane 944111-49-3P,

[3,3'-Bis[3-(3,5-dimethyl-1-adamantyl)-4-(4-amino-3-

hydroxyphenoxy)phenyl]-5,5',7,7'-tetramethyl-1,1'-biadamantane

(manufacture of adamantanes substituted with 2 aminohydroxyphenyl groups having diamondoid structure for low dielec. polymers)

L31 ANSWER 6 OF 17 HCAPLUS COPYRIGHT 2008 ACS on STN 2007:754494 HCAPLUS Full-text ACCESSION NUMBER:

DOCUMENT NUMBER -147:166761

TITLE: 3,3',5,5'-tetrakis[4-(aminohydroxyphenoxy)phenyl]-1,1'-biadamantanes for low-dielectric-constant

resins

INVENTOR(S): Sano, Yoko

PATENT ASSIGNEE(S): Sumitomo Bakelite Co., Ltd., Japan SOURCE:

Jpn. Kokai Tokkyo Koho, 7pp.

CODEN: JKXXAF DOCUMENT TYPE: Patent

LANGUAGE: Japanese FAMILY ACC. NUM. COUNT:

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2007176805 PRIORITY APPLN. INFO.:	A	20070712	JP 2005-373930 JP 2005-373930	20051227 20051227

Entered STN: 12 Jul 2007 ED GI

$$\begin{array}{c} \text{NH2} \\ \text{OH} \\ \text{O} \\ \text{NH2} \\ \text{NH2} \\ \text{Rm} \\ \text{NH2} \\ \text{OH} \\ \text{NH2} \\ \text{NH3} \\ \text$$

AB The biadamantanes are I (R = group with diamondoid structure, m = 0-10). Thus, 1-bromoadamantane was coupled with Mg, brominated, treated with PhOH in the presence of FeCl3, treated with 2-benzyloxy-4-fluoronitrobenzene, and hydrogenated to give 3,3',5,5'-tetrakis [4-(4-amino-3-hydroxyphenoxy)phenyl]-1,1'- biadamantane.

IT 920742-39-8P

(manufacture of tetrakis[(aminohydroxyphenoxy)phenyl]biadamantanes for low-dielec.-constant resins)

- RN 920742-39-8 HCAPLUS
- CN Phenol, 3,3',3'',3'''-[[1,1'-bitricyclo[3.3.1.13,7]decane]-3,3',5,5'-tetrayltetrakis(4,1-phenyleneoxy)]tetrakis[6-amino-(CA INDEX NAME)

PAGE 1-A

PAGE 2-A

IT 916645-89-1P 943817-01-4P

(manufacture of tetrakis[(aminohydroxyphenoxy)phenyl]biadamantanes for low-dielec.-constant resins)

- RN 916645-89-1 HCAPLUS
- CN Phenol, 4,4',4'',4'''-[1,1'-bitricyclo[3.3.1.13,7]decane]-3,3',5,5'tetrayltetrakis- (CA INDEX NAME)

RN 943817-01-4 HCAPLUS

CN 1,1'-Bitricyclo[3.3.1.13,7]decane,
3,3',5,5'-tetrakis[4-[4-nitro-3-(phenylmethoxy)phenoxy]phenyl]- (CA
INDEX NAME)

PAGE 1-A

PAGE 2-A

CC 35-2 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 25, 76

920742-39-8P

(manufacture of tetrakis[(aminohydroxyphenoxy)phenyl]biadamantanes for low-dielec.-constant resins)

916645-89-1P 943817-01-4P

(manufacture of tetrakis [(aminohydroxyphenoxy)phenyl]biadamantanes for low-dielec.-constant resins)

L31 ANSWER 7 OF 17 HCAPLUS COPYRIGHT 2008 ACS on STN 2007:726475 HCAPLUS Full-text ACCESSION NUMBER:

DOCUMENT NUMBER:

147:118617

TITLE: Tetrakis(aminophenols) having diamondoid structure as materials for polymers with low dielectric

constant

INVENTOR(S): Harada, Takahiro

Sumitomo Bakelite Co., Ltd., Japan PATENT ASSIGNEE(S): SOURCE:

Jpn. Kokai Tokkyo Koho, 17pp.

CODEN: JKXXAF DOCUMENT TYPE: Patent LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

P

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2007169236	A	20070705	JP 2005-371687	20051226
PRIORITY APPLN. INFO.:			JP 2005-371687	20051226

OTHER SOURCE(S): MARPAT 147:118617

ED Entered STN: 05 Jul 2007

AB Claimed are title compds., preferably OH and NH2 are at the ortho position. Thus, 1,3-dihydroxybenzene was reacted with 5,5',7,7'-tetramethyl-3,3'-

dibromobiadamantane, 1-bromo-3,5-dimethyladamantane, 2-benzyloxy-4fluoronitrobenzene, and deprotected to give 5,5',7,7'-tetramethyl-3,3'-bis[3-

(3,5-dimethyl-1- adamantyl)-4,6-(4-amino-3-hydroxyphenoxy)phenyl]-1,1'-

biadamantane, which exhibited specific dielec. constant 2.75.

942936-21-2P 942936-22-3P 942936-23-4P 942936-24-5P 942936-29-0P 942936-30-3P

942936-31-4P 942936-32-5P

(preparation of tetrakis(aminophenol)-modified adamantanes as materials for polymers with low dielec. constant)

942936-21-2 HCAPLUS RN

Phenol, 3,3',3'',3'''-[(5,5',7,7'-tetramethyl[1,1'-CN bitricyclo[3.3.1.13,7]decane]-3,3'-diyl)bis[[5-(3,5-

# 10/531,208

dimethyltricyclo[3.3.1.13,7]dec-1-yl)-1,2,4benzenetriyl]bis(oxy)]]tetrakis[6-amino- (CA INDEX NAME)

PAGE 1-A

PAGE 2-A

RN 942936-22-3 HCAPLUS

CN Phenol, 3,3',3'',3''-[[1,1'-bitricyclo[3.3.1.13,7]decane]-3,3'-dylbis[5-(3,5-dimethyltricyclo[3.3.1.13,7]dec-1-yl)-1,2,4-benzenetriyl]bis(oxy)]]tetrakis[5-amino-(CA INDEX NAME)

- RN 942936-23-4 HCAPLUS
- CN Phenol, 3,3',3'',3'''-[(5,5',7,7'-tetramethyl[1,1'-bitricyclo[3,3.1.13,7]decane]-3,3'-diyl)bis[1,2'+A-benzenetriylbis(oxy)]]tetrakis[6-amino-(CA INDEX NAME)

PAGE 2-A

RN 942936-24-5 HCAPLUS

CN Phenol, 3,3',3'',3'''-[[1,1'-bitricyclo[3.3.1.13,7]decane]-3,3'-diylbis[1,2,4-benzenetriylbis(oxy)]]tetrakis[6-amino-(CA INDEX NAME)

PAGE 2-A

- RN 942936-29-0 HCAPLUS
- CN Phenol, 4,4',4'',4'''-[(5,5',7,7'-tetramethyl[1,1'-bitricyclo[3.3.1.13,7]decane]-3,3'-diyl)bis[7-(3,5-dimethyltricyclo[3.3.1.13,7]dec-1-yl)-9H-fluoren-2-yl-9-ylidene]]tetrakis[2-amino- (CA INDEX NAME)

RN

942936-30-3 HCAPLUS
Phenol, 4,4',4'',4'''-[[1,1'-bitricyclo[3.3.1.13,7]decane]-3,3'-CN diylbis[7-(3,5-dimethyltricyclo[3.3.1.13,7]dec-1-yl)-9H-fluoren-2-yl-9ylidene]]tetrakis[2-amino- (CA INDEX NAME)

- RN 942936-31-4 HCAPLUS
- CN Phenol, 4,4',4'',4'''-[(5,5',7,7'-tetramethyl[1,1'-bitricyclo[3,3.1.13,7]decane]-3,3'-diyl]di-9H-fluoren-2-yl-9-ylidene|tetrakis[2-amino- (CA INDEX NAME)

PAGE 1-A

PAGE 2-A

RN 942936-32-5 HCAPLUS

CN Phenol, 4,4',4'',4'''-([1,1'-bitricyclo[3.3.1.13,7]decane]-3,3'-diyldi-9H-fluoren-2-yl-9-ylidene)tetrakis[2-amino-(CA INDEX NAME)

PAGE 2-A

IT 942936-16-5P

(preparation of tetrakis(aminophenol)-modified adamantanes as materials for polymers with low dielec. constant)

- RN 942936-16-5 HCAPLUS
- CN 1,1'-Bitricyclo[3.3.1.13,7]decane,

3,3'-bis[2,4-bis[4-nitro-3-(phenylmethoxy)phenoxy]phenyl]-5,5',7,7'-tetramethyl- (CA INDEX NAME)

PAGE 2-A

0-CH<sub>2</sub>-Ph

CC 35-2 (Chemistry of Synthetic High Polymers) Section cross-reference(s): 25, 76

IT 942936-21-2P 942936-22-3P 942936-23-4P 942936-27-8P 942936-25-6P 942936-26-7P 942936-27-8P 942936-28-9P 942936-29-0P 942936-30-3P 942936-31-4P 942936-32-5P

(preparation of tetrakis(aminophenol)-modified adamantanes as materials for polymers with low dielec. constant)

IT 942936-15-4P 942936-16-5P 942936-17-6P 942936-18-7P 942936-19-8P 942936-20-1P

942936-19-8F 942936-2U-1F

(preparation of tetrakis(aminophenol)-modified adamantanes as materials for polymers with low dielec. constant)  $\,$ 

L31 ANSWER 8 OF 17 HCAPLUS COPYRIGHT 2008 ACS on STN ACCESSION NUMBER: 2007:696990 HCAPLUS Full-text DOCUMENT NUMBER: 147:96045

TITLE: Diamondoid structure-containing aromatic

carboxylic acids and their chlorides INVENTOR(S): Yamanoi, Yumiko

PATENT ASSIGNEE(S): Sumitomo Bakelite Co., Ltd., Japan

# 10/531,208

SOURCE: Jpn. Kokai Tokkyo Koho, 16pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent
LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2007161625	A	20070628	JP 2005-358323	20051212
PRIORITY APPLN. INFO.:			JP 2005-358323	20051212

OTHER SOURCE(S): MARPAT 147:96045

ED Entered STN: 28 Jun 2007

AB The carboxylic acids, useful as monomers for low-dielec.-constant resins, are RmAr(OC6H4CO2H)2 (R = group comprising diamondoid structure; Ar = aromatic group; m = 0-20). Thus, 1-bromoadamantane was successively treated with 1,3-dihydroxybenzene and 4-bromobenzonitrile, and reduced to give 4,6-di(1-adamantyl)-1,3-bis(4-carboxyphenoxy)benzene, which was treated with SOC12 to give 4,6-di(1-adamantyl)-1,3-bis(4-chlorocarbonylphenoxy)benzene.

IT 942203-46-5P

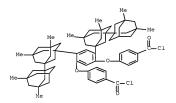
and

(manufacture of diamondoid structure-containing aromatic carboxylic acids

their chlorides as monomers for low-dielec.-constant resins)

RN 942203-46-5 HCAPLUS

CN Benzoyl chloride, 4,4'-[[4,6-bis(3',5,5',7-tetramethyl[1,1'-bitricyclo[3.3.1.13,7]decan]-3-yl)-1,3-phenylene]bis(oxy)]bis- (CA INDEX NAME)



IT 942203-45-4P

 $\mbox{(manufacture of diamondoid structure-containing aromatic carboxylic acids} \label{eq:containing} \mbox{and}$ 

their chlorides as monomers for low-dielec.-constant resins)

RN 942203-45-4 HCAPLUS

Benzoic acid, 4,4'-[[4,6-bis(3',5,5',7-tetramethyl[1,1'-bitricyclo[3,3.1.13,7]decan]-3-yl)-1,3-phenylene]bis(oxy)]bis- (CA INDEX NAME)

PAGE 1-A

PAGE 2-A

35-2 (Chemistry of Synthetic High Polymers) Section cross-reference(s): 25

942203-43-2P 942203-44-3P 942203-46-5P 942203-49-8P 942203-51-2P

(manufacture of diamondoid structure-containing aromatic carboxylic acids

and

their chlorides as monomers for low-dielec.-constant resins) 367279-75-2P 890404-36-1P 920742-37-6P 942203-41-0P ΙT

942203-42-1P 942203-45-4P 942203-47-6P 942203-48-7P 942203-50-1P

(manufacture of diamondoid structure-containing aromatic carboxylic acids and

their chlorides as monomers for low-dielec.-constant resins)

L31 ANSWER 9 OF 17 HCAPLUS COPYRIGHT 2008 ACS on STN ACCESSION NUMBER: 2007:86095 HCAPLUS Full-text

DOCUMENT NUMBER: 146:164327

TITLE: Benzoxazole precursors, polymer compositions and coating varnishes containing them with excellent storage stability and solubility, and films and

semiconductor devices using them

INVENTOR(S): Enoki, Naoshi; Harada, Takahiro; Sano, Yoko

PATENT ASSIGNEE (S): Sumitomo Bakelite Co., Ltd., Japan SOURCE: Jpn. Kokai Tokkyo Koho, 23pp.

CODEN: JKXXAF DOCUMENT TYPE: Patent

LANGUAGE: Japanese FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE		
JP 2007016223	A	20070125	JP 2006-159016	20060607		
PRIORITY APPLN. INFO.:			JP 2005-168846 A	20050608		

ED Entered STN: 25 Jan 2007

AB The precursors, useful for interlayer dielecs. and protective films, contain compds. bearing ≥5 in total of ≥2 o-aminophenol groups and ≥2 carboxylic acid groups. Thus, a precursor prepared from 1,3,5-tris(3-amino-4-hydroxyphenoxy)adamantane, 5,5',7,7'-tetramethyl-1,1'-biadamantyl-3,3'-dicarboxylic dichloride, and benzoyl chloride gave a thermally cured film with thermal decomposition temperature 536' and dielec. constant 2.2.

3,26511-54-2DP, reaction products with 3,5-dimethyladamantylcarboxylic acid chloride 920511-58-6DP, reaction products with 3,5-dimethyladamantylcarboxylic acid chloride (film; storage-stable polybenzoxazole precursor varnishes for dielec. films for semiconductor devices)

RN 920511-54-2 HCAPLUS

NN 22031F94-2 ROFINS CT Tricyclo[3,3.1.13,7]decane-1,3,5,7-tetracarbonyl tetrachloride, polymer with 4,4',4'',4''-[1,1'-bitricyclo[3,3.1.13,7]decane]-3,3',5,5'-tetrayltetrakis[2-aminophenol] (CA INDEX NAME)

CM 1

CRN 920511-53-1 CMF C44 H50 N4 O4

CM 2

CRN 137494-82-7 CMF C14 H12 C14 O4

RN 920511-58-6 HCAPLUS

CN [1,1'-Bitricyclo[3.3.1.13,7]decane]-3,3',5,5'-tetracarbonyl
tetrachloride, polymer with 4,4',4'',4'''-[1,1'-

bitricyclo[3.3.1.13,7]decane]-3,3',5,5'-tetrayltetrakis[2-aminophenol] (CA INDEX NAME)

CM 1

CRN 920511-53-1 CMF C44 H50 N4 O4

CM 2

CRN 41826-67-9 CMF C24 H26 C14 O4

IIT 320511-53-1P, 3,3',5,5'-Tetrakis(3-amino-4-hydroxyphenyl)1,1'biadamantane

(for precursor preparation; storage-stable polybenzoxazole precursor varnishes for dielec. films for semiconductor devices)

RN 920511-53-1 HCAPLUS

CN Phenol, 4,4',4'',4'''-[1,1'-bitricyclo[3.3.1.13,7]decane]-3,3',5,5'-tetravl]tetrakis[3-amino-(CA INDEX NAME)

CC 38-3 (Plastics Fabrication and Uses) Section cross-reference(s): 76

IT 95-55-6DP, 2-Aminophenol, reaction products with polybenzoxazole precursor 98-88-4DP, Benzoyl chloride, reaction products with polybenzoxazole precursor 3124-87-6DP,

3,5-Dimethyladamantyl-1-carboxylic acid chloride, reaction products with polybenzoxazole precursor 920511-51-9DP, reaction products with benzoyl chloride 920511-52-0DP, reaction products with aminophenol 920511-54-2DP, reaction products with

3,5-dimethyladamantylcarboxylic acid chloride 920511-56-4DP,

3-Phenylethynylbenzoyl chloride, reaction products with polybenzoxazole precursor 920511-57-5DP, reaction products with phenylethynylbenzoyl chloride 920511-58-6DP, reaction

products with 3,5-dimethyladamantylcarboxylic acid chloride 920511-59-7DP, reaction products with phenylethynylbenzoyl chloride

(film; storage-stable polybenzoxazole precursor varnishes for dielec. films for semiconductor devices)

IT 41826-67-9P, 1,1'-Biadamantyl-3,3',5,5'-tetracarboxylic acid
tetrachloride 63263-14-9P, 3,3'-Dibromo-5,5',7,7'-tetramethyl-1,1'biadamantane 100884-80-8P, Adamantyl-1,3,5,7-tetracarboxylic acid
137494-82-7P, Adamantyl-1,3,5,7-tetracarboxylic acid tetrachloride
150785-12-9P, 3,3',5,5'-Tetrabromo-1,1'-biadamantane 393543-14-1P,
5-Phenylethynylisophthalic acid dichloride 890404-31-6P,

Bis1,3-(4-amino-3-hydroxyphenoxy)-4,6-bis(3,5-dimethyl-1-adamantyl)benzene 890404-32-7P,

2-Benzyloxy-4-fluoro-5-(3,5-dimethyl-1-adamantyl)nitrobenzene 890404-33-8P, 1,3-Bis[6-(3,5-dimethyl-1-adamantyl)-4-amino-3hydroxyphenoxy]-4,6-bis(3,5-dimethyl-1-adamantyl)benzene

897442-64-7P, 5,5',7,7'-Tetramethyl-1,1'-biadamantyl-3,3'-dicarboxylic acid 897442-65-8P, 5,5',7,7'-Tetramethyl-1,1'-biadamantyl-3,3'-

dicarboxylic acid dichloride 920511-50-8P,

1,3,5-Tris(3-amino-4-hydroxyphenyl)adamantane 920511-53-1P,

3,3',5,5'-Tetrakis(3-amino-4-hydroxyphenyl)1,1'-biadamantane

920511-55-3P, 4,6-Bis(3,5-dimethyladamantyl)resorcinol

(for precursor preparation; storage-stable polybenzoxazole precursor varnishes for dielec. films for semiconductor devices)

L31 ANSWER 10 OF 17 HCAPLUS COPYRIGHT 2008 ACS on STN ACCESSION NUMBER: 2007:86060 HCAPLUS Full-text

DOCUMENT NUMBER: 146:164326

TITLE: Benzoxazole precursors, polymer compositions and coating varnishes containing them with excellent storage stability and solubility, and films and

semiconductor devices using them

INVENTOR(S): Murata, Mitsuru; Izumi, Atsushi; Yamanoi, Yumiko

PATENT ASSIGNEE(S): Sumitomo Bakelite Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 22pp.

CODEN: JKXXAF
DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2007016220	A	20070125	JP 2006-158352	20060607
PRIORITY APPLN. INFO.:			JP 2005-168845 A	20050608

ED Entered STN: 25 Jan 2007

AB The precursors, useful for interlayer dielecs. and protective films, contain compds. bearing ≥3 in total of o-aminophenol groups and carboxylic acid groups. Thus, a precursor prepared from 5-[4-(3-hydroxy-4-amino-phenoxy)phenyl]-adamantyl-1,3-dicarboxylic acid and 2-amino-4-(3,5-dimethyl-1-adamantyl)phenol gave a thermally cured film with thermal decomposition temperature 523° and dielec. constant 2.4.

IT 920742-40-1DP, reaction products with

5-phenvlethynylisophthalic acid

(film; storage-stable polybenzoxazole precursor varnishes for

dielec. films for semiconductor devices)

RN 920742-40-1 HCAPLUS

CN Benzoic acid, 3,5-bis[5-amino-2-(3,5-dimethyltricyclo[3.3.1.13,7]dec-1-y1)-4-hydroxyphenoxy]-, polymer with 3,3',3'',3'''-[[1,1'-bitricyclo[3.3.1.13,7]decane]-3,3',5,5'-tetrayltetrakis[4,1-phenyleneoxy)]tetrakis[6-aminophenol] (CA INDEX

NAME) CM 1

CRN 920742-39-8

CMF C68 H66 N4 O8

PAGE 1-A

PAGE 2-A

CM 2

CRN 920742-33-2 CMF C43 H52 N2 O6

IT 920742-39-8P, 3,3',5,5'-Tetrakis[4-(3-hydroxy-4-

aminophenoxy)phenyl]-1,1'-biadamantane

(for precursor preparation; storage-stable polybenzoxazole precursor varnishes for dielec. films for semiconductor devices)

RN 920742-39-8 HCAPLUS

CN Phenol, 3,3',3'',3'''-[[1,1'-bitricyclo[3.3.1.13,7]decane]-3,3',5,5'-tetrayltetrakis(4,1-phenyleneoxy)]tetrakis[6-amino-(CA INDEX NAME)

PAGE 1-A

PAGE 2-A

CC 38-3 (Plastics Fabrication and Uses) Section cross-reference(s): 25, 76

65-85-0DP, Benzoic acid, reaction products with polybenzoxazole precursor 95-55-6DP, 2-Aminophenol, reaction products with polybenzoxazole precursor 14670-94-1DP, 3,5-Dimethyladamantylcarboxylic acid, reaction products with polybenzoxazole precursor 432025-99-5DP, 5-Phenylethynylisophthalic acid, reaction products with polybenzoxazole precursor 920742-31-0DP, 2-Amino-4-(3,5-dimethyl-1-adamantyl)phenol, reaction products with polybenzoxazole precursor 920742-32-1DP, reaction products with 2-amino-4-(3,5-dimethyl-1-adamantyl)phenol 920742-34-3DP, 3,5-Bis[3-hydroxy-4-amino-6-(3,5-dimethyl-1adamantyl)phenoxylbenzoic acid homopolymer, reaction products with 3,5-dimethyladamantylcarboxylic acid 920742-35-4DP, reaction products with 2-aminophenol 920742-36-5DP, reaction products with 2-aminophenol or 5-phenylethynylisophthalic acid 920742-38-7DP, reaction products with benzoic acid 920742-40-1DP, reaction products with 5-phenylethynylisophthalic acid

(film; storage-stable polybenzoxazole precursor varnishes for dielec. films for semiconductor devices)

IT 41826-66-8P, 1,1'-Biadamanty1-3,3',5,5'-tetracarboxylic acid
150785-12-9P, 3,3',5,5'-Tetrabromo-1,1'-biadamantane 890404-31-6P,
4,6-Bis(3,5-dimethy1-1-adamanty1)-1,3-bis(3-hydroxy-4aminophenoxy)benzene 890404-32-7P,
2-Benzyloxy-4-fluoro-5-(3,5-dimethy1-1-adamanty1)nitrobenzene
920511-55-3P, 4,6-Bis(3,5-dimethy1-dadamanty1)resorcinol 920742-29-6P

92051-55-3P, 4,6-Bis(3,5-dimethyladamantyl)resorcinol 920742-29-6; 920742-30-9P, 5-[4-(3-Hydroxy-4-aminophenoxy)phenyl]adamantyl-1,3-dicarboxylic acid 920742-31-0P, 2-Amino-4-(3,5-dimethyl-1-adamantyl)phenol 920742-33-2P,

3,5-Bis[3-hydroxy-4-amino-6-(3,5-dimethyl-1-adamantyl)phenoxy]benzoic acid 920742-37-6F, 4,6-Bis(3,5-dimethyl-1-adamantyl)-1,3-bis(4-carboxyphenoxy)benzene 920742-39-8F, 3,3',5,5'-Tetrakis[4-(3-hydroxy-4-aminophenoxy)phenyl]-1,1'-

3,3',5,5'-letrakis[4-(3-nydroxy-4-aminophenoxy)phenyl]-1,1'-biadamantane

(for precursor preparation; storage-stable polybenzoxazole precursor varnishes for dielec. films for semiconductor devices)

ACCESSION NUMBER: 2006:1332629 HCAPLUS Full-text
DOCUMENT NUMBER: 146:63254
TITLE: Biadamantanetetraphenols

TITLE: Biadamantanetetraphenols
INVENTOR(S): Nakai, Yasuto; Maeda, Shigehiro; Nakai, Toru;

L31 ANSWER 11 OF 17 HCAPLUS COPYRIGHT 2008 ACS on STN

Kamuro, Yoshiaki; Harada, Takahiro; Sano, Yoko
PATENT ASSIGNEE(S): Daicel Chemical Industries, Ltd., Japan; Sumitomo
Bakelite Co., Ltd.

# 10/531,208

SOURCE: Jpn. Kokai Tokkyo Koho, 7pp.

CODEN: JKXXAF Patent

DOCUMENT TYPE:

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

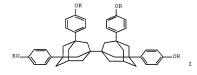
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2006342094	A	20061221	JP 2005-168733	20050608
PRIORITY APPLN. INFO.:			JP 2005-168733	20050608

EKIOKIII AFFEN. INCO

OTHER SOURCE(S): MARPAT 146:63254

ED Entered STN: 21 Dec 2006

GI



- AB Title compds., useful for polymers for electronic or optical parts, liquid crystal alignment films, etc., are I (R = H, protective group, atom catomic group for forming salt; positions adjacent to OR may be substituted with halo and/or amino). Thus, 3,3°,5°,5'-tetrabromo-1,1'-biadamantane was treated with PhOH to give 708 3,3°,5',5'-tetrakis(4-hydroxypheny)1-1,1'-biadamantane.
- IT 916645-89-1P
  - (manufacture of biadamantanetetraphenols)
- RN 916645-89-1 HCAPLUS
- CN Phenol, 4,4',4'',-[1,1'-bitricyclo[3.3.1.13,7]decane]-3,3',5,5'tetrayltetrakis- (CA INDEX NAME)

35-2 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 25

TT 916645-89-1P

(manufacture of biadamantanetetraphenols)

L31 ANSWER 12 OF 17 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2006:1090752 HCAPLUS Full-text

DOCUMENT NUMBER: 145:439514

TITLE: Polybenzoxazole precursors, polybenzoxazoles from them with excellent heat resistance and dielectric

properties, and varnishes, films, and semiconductor devices using them

INVENTOR(S): Oki, Hiromi; Enoki, Naoshi PATENT ASSIGNEE(S): Sumitomo Bakelite Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 27pp.

CODEN: JKXXAF DOCUMENT TYPE: Patent

LANGUAGE: Japanese FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

AB

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2006282815	A	20061019	JP 2005-103569	20050331
PRIORITY APPLN. INFO.:			JP 2005-103569	20050331

- Entered STN: 19 Oct 2006
- The precursors, useful for interlayer dielecs., surface protecting films, and etching stopper films, are obtained by reacting dianilines (Me3COCO2Q)2X (Q = aminophenylene; X = C-containing organic group, O) and dicarboxylic acids. Thus, a polyamide from 9,9-bis[(3-amino-4-tertbutoxycarbonyloxy)phenyl]fluorene and 3,3'-(5,5',7,7'-tetramethyl-1,1'biadamantane)dicarboxylic acid dichloride gave a film with glass-transition temperature 413°, heat decomposition temperature 527°, and dielec. constant
- 2.71. 912818-94-1P 912818-96-3P ΙT
  - (butoxycarbonyloxy-containing polyamides for polybenzoxazole films with good heat resistance and low dielec. constant for semiconductor devices)
- 912818-94-1 HCAPLUS RN
- CN Poly[oxy[4,6-bis([1,1'-bitricyclo[3,3,1,13,7]decan]-3-vl)-1,3phenylene]oxy[3-[[(1,1-dimethylethoxy)carbonyl]oxy]-1,4phenylene]iminocarbonyl-1,3-phenylenecarbonylimino[2-[[(1,1-

dimethylethoxy)carbonyl]oxy]-1,4-phenylene]] (9CI) (CA INDEX NAME)

<sup>\*</sup> STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

<sup>\*</sup> STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \* 912818-96-3 HCAPLUS RN

Poly[oxy[4,6-bis([1,1'-bitricyclo[3,3,1,13,7]decan]-3-v1)-1,3phenylene]oxy[3-[[(1,1-dimethylethoxy)carbonyl]oxy]-1,4phenyleneliminocarbonv1(5,5',7,7'-tetramethy1[1,1'bitricyclo[3.3.1.13,7]decane]-3,3'-diyl)carbonylimino[2-[[(1,1-

- \* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY AVAILABLE VIA OFFLINE PRINT \*
- \* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY AVAILABLE VIA OFFLINE PRINT \*

IT 912818-93-0P 912818-95-2P

(butoxycarbonyloxy-containing polyamides for polybenzoxazole films with good heat resistance and low dielec. constant for semiconductor devices)

RN 912818-93-0 HCAPLUS

CN Carbonic acid, [4,6-bis([1,1'-bitricyclo[3.3.1.13,7]decan]-3-yl)-1,3phenylene]bis[oxy(6-amino-3,1-phenylene)] bis(1,1-dimethylethyl) ester, polymer with 1,3-benzenedicarbonyl dichloride (9CI) (CA INDEX NAME)

CM

CRN 912818-88-3

CMF C68 H88 N2 O8

CM 2

CRN 99-63-8

CMF C8 H4 C12 O2

RN 912818-95-2 HCAPLUS

CN Carbonic acid, [4,6-bis([1,1'-bitricyclo[3.3.1.13,7]decan]-3-y1)-1,3-

# 10/531,208

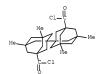
phenylene]bis[oxy(6-amino-3,1-phenylene)] bis(1,1-dimethylethyl)
ester, polymer with 5,5',7,7'-tetramethyl[1,1'bitricyclo[3.3.1.13,7]decane]-3,3'-dicarbonyl dichloride (9CI) (CA
INDEX NAME)

CM 1

CRN 912818-88-3 CMF C68 H88 N2 O8

CM

CRN 897442-65-8 CMF C26 H36 C12 O2



- IT 912818-86-1, 1,3-Bis(3-hydroxy-4-nitrophenoxy)-4,6
  - di(biadamantyl)benzene

(for dianiline preparation; butoxycarbonyloxy-containing polyamides for polybenzoxazole films with good heat resistance and low dielec. constant for semiconductor devices)

RN 912818-86-1 HCAPLUS

CN Phenol, 3,3'-[[4,6-bis([1,1'-bitricyclo[3.3.1.13,7]decan]-3-y1)-1,3-phenylene]bis(oxy)]bis[6-nitro-(9CI) (CA INDEX NAME)

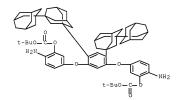


IT 912818-88-3P

(monomer; butoxycarbonyloxy-containing polyamides for polybenzoxazole films with good heat resistance and low dielec. constant for semiconductor devices)

RN 912818-88-3 HCAPLUS

CN Carbonic acid, [4,6-bis([1,1'-bitricyclo[3.3.1.13,7]decan]-3-y1)-1,3-phenylene]bis(oxy(6-amino-3,1-phenylene)] bis(1,1-dimethylethyl) ester (9CI) (CA INDEX NAME)



CC 38-3 (Plastics Fabrication and Uses)

Section cross-reference(s): 76

IT 912818-90-7P 912818-92-9P 912818-94-1P 912818-96-3P

(butoxycarbonyloxy-containing polyamides for polybenzoxazole films with good heat resistance and low dielec. constant for semiconductor devices)

IT 912804-00-3P 912804-03-6P 912804-06-9P 912804-09-2P

912818-89-4P 912818-91-8P 912818-93-0P

912818-95-2P

(butoxycarbonyloxy-containing polyamides for polybenzoxazole films with good heat resistance and low dielec. constant for semiconductor devices)

24424-99-5, Di-tert-butyl dicarbonate 406680-57-7,

9,9-Bis(3-nitro-4-hydroxyphenyl)fluorene 897442-29-4, Bis(3-nitro-4-hydroxyphenyl)biadamantane 912818-86-1,

1,3-Bis(3-hydroxy-4-nitrophenoxy)-4,6-di(biadamantyl)benzene

(for diamiline preparation; butoxycarbonyloxy-containing polyamides for polybenzoxazole films with good heat resistance and low dielec. constant for semiconductor devices)

T 512172-69-9P 912818-87-2P 912818-88-3P

# 10/531,208

(monomer; butoxycarbonyloxy-containing polyamides for polybenzoxazole films with good heat resistance and low dielec. constant for semiconductor devices)

L31 ANSWER 13 OF 17 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2006:1090718 HCAPLUS Full-text

DOCUMENT NUMBER: 145:439509

TITLE: Polyesters, polybenzoxazoles from them with excellent heat resistance and low dielectric

constant, and varnishes, films, and semiconductor

devices using them

INVENTOR(S): Oki, Hiromi; Enoki, Naoshi

PATENT ASSIGNEE(S): Sumitomo Bakelite Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 26pp.

CODEN: JKXXAF
DOCUMENT TYPE: Patent

LANGUAGE: Japanese FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE			
JP 2006282814 PRIORITY APPLN. INFO.:	A	20061019	JP 2005-103568 JP 2005-103568	20050331 20050331			

ED Entered STN: 19 Oct 2006

AB The polyesters, useful for interlayer dielecs., surface protecting films, and etching stopper films, have repeating units obtained by reacting bisphenols (Me3COC:ONNO)2X (Q = hydroxyphenylene; X = C-containing organic group, O) and dicarboxylic acids. Thus, a polyester from 9,9-bis[(3-tert-butoxycarbonylamino-4-hydroxy)phenyl]fluorene and 3,3'-(5,5',7,7'-tetramethyl-1,1'-biadamantane)dicarboxylic acid dichloride gave a film with glasstransition temperature 410°, heat decomposition temperature 528°, and dielec. constant 2,71.

912803-97-5P

(bisphenol; butoxycarbonylamino-containing polyesters for polybenzoxazole films with good heat resistance and low dielec. constant for semiconductor devices)

RN 912803-97-5 HCAPLUS

CN Carbamic acid, [[4,6-bis([1,1'-bitricyclo[3.3.1.13,7]decan]-3-y1)-1,3-phenylene]bis[oxy(2-hydroxy-4,1-phenylene)]]bis-, bis(1,1-dimethylethyl) ester (9CI) (CA INDEX NAME)



IT 912804-05-8P 912804-08-1P

(butoxycarbonylamino-containing polyesters for polybenzoxazole films with good heat resistance and low dielec. constant for semiconductor  ${\bf r}$ 

devices)

RN 912804-05-8 HCAPLUS

CN Poly[oxy[4,6-bis([1,1'-bitricyclo[3.3.1.13,7]decan]-3-y1)-1,3phenylene]oxy[4-[[(1,1-dimethylethoxy)carbonyl]amino]-1,3phenylene]oxycarbonyl-1,3-phenylenecarbonyloxy[6-[[(1,1dimethylethoxy)carbonyl]amino]-1,3-phenylene]] (9CI) (CA INDEX NAME)

RN 912804-08-1 HCAPLUS

CN Poly(oxy(4,6-bis(11,1'-bitricyclo[3,3.1.13,7]decan]-3-y1)-1,3phenylene]oxy(4-[(1,1-dimethylethoxy)ambonyl]amino]-1,3phenylene]oxycarbonyl(5,5',7,7'-tetramethyl[1,1'bitricyclo[3,3.1.13,7]decane]-3,3'-diyl)carbonyloxy[6-[([1,1dimethylethoxy)carbonyl]amino]-1,3-phenylene]) (9CI) (CA INDEX NAME)

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \* IT 912804-04-7P 912804-07-0P

(butoxycarbonylamino-containing polyesters for polybenzoxazole films with good heat resistance and low dielec. constant for semiconductor devices)

RN 912804-04-7 HCAPLUS

CN Carbamic acid, [[4,6-bis([1,1'-bitricyclo[3.3.1.13,7]decan]-3-y1)-1,3phenylene]bis[oxy(2-hydroxy-4,1-phenylene)]bis-, bis(1,1-dimethylethyl) ester, polymer with 1,3-benzenedicarbonyl dichloride (901) (CA INDEX NAME)

CM 1

CRN 912803-97-5

CMF C68 H88 N2 O8

CM 2

CRN 99-63-8 CMF C8 H4 C12 O2

RN 912804-07-0 HCAPLUS

CN Carbamic acid, [[4,6-bis([1,1'-bitricyclo[3,3.1,13,7]decan]-3-y1)-1,3-phenylene]bis[oxy(2-hydroxy-4,1-phenylene)]bis-, bis(1,1-dimethylethyl) ester, polymer with 5,5',7,7'-tetramethyl[1,1'-bitricyclo[3,3.1.13,7]decane]-3,3'-dicarbonyl dichloride (9C1) (CA INDEX NAME)

CM :

CRN 912803-97-5

CMF C68 H88 N2 O8

CM 2

CRN 897442-65-8 CMF C26 H36 C12 O2



890404-08-7, 1,3-Bis(3-hydroxy-4-aminophenoxy)-4,6di(biadamantvl)benzene

> (for bisphenol preparation; butoxycarbonylamino-containing polyesters for polybenzoxazole films with good heat resistance and low dielec. constant for semiconductor devices)

RN 890404-08-7 HCAPLUS

CN Phenol, 3,3'-[[4,6-bis([1,1'-bitricvclo[3.3.1.13,7]decan]-3-v1)-1,3phenylene]bis(oxy)]bis[6-amino- (CA INDEX NAME)



CC 38-3 (Plastics Fabrication and Uses) Section cross-reference(s): 76

912803-95-3P 912803-96-4P 912803-97-5P

> (bisphenol; butoxycarbonylamino-containing polyesters for polybenzoxazole films with good heat resistance and low dielec.

constant for semiconductor devices)

912804-02-5P 912804-05-8P 912803-99-7P

912804-08-1P

(butoxycarbonylamino-containing polyesters for polybenzoxazole films with good heat resistance and low dielec. constant for semiconductor devices)

912803-98-6P 912804-00-3P 912804-01-4P 912804-03-6P 910804-04-7P 912804-06-9P 912804-07-0P

912804-09-2P

(butoxycarbonylamino-containing polyesters for polybenzoxazole films with good heat resistance and low dielec. constant for semiconductor devices)

- 20638-07-7, 9.9-Bis(3-amino-4-hydroxyphenyl)fluorene 24424-99-5.
  - Di-tert-butyl dicarbonate 890404-08-7,
  - 1.3-Bis(3-hydroxy-4-aminophenoxy)-4.6-di(biadamantyl)benzene
  - 897442-30-7, Bis(3-amino-4-hydroxyphenyl)biadamantane

(for bisphenol preparation; butoxycarbonylamino-containing polyesters for polybenzoxazole films with good heat resistance and low dielec. constant for semiconductor devices)

L31 ANSWER 14 OF 17 HCAPLUS COPYRIGHT 2008 ACS on STN ACCESSION NUMBER: 2006:679352 HCAPLUS Full-text

DOCUMENT NUMBER: 145:124943

1,1':3',1'':3'',1'''-Tetraadamantanephenols and TITLE:

their manufacture

INVENTOR(S): Nakai, Yasuto; Kamuro, Yoshiaki; Enoki, Naoshi; Izumi, Atsushi

PATENT ASSIGNEE(S): Daicel Chemical Industries, Ltd., Japan; Sumitomo

Bakelite Co., Ltd.

SOURCE: Jpn. Kokai Tokkyo Koho, 15 pp.

CODEN: JKXXAF DOCUMENT TYPE: Patent LANGUAGE . Japanese

FAMILY ACC. NUM. COUNT:

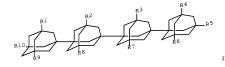
PATENT INFORMATION:

PATENT NO.	KIND	DATE	DATE			
JP 2006182690 PRIORITY APPLN. INFO.:	A	20060713	JP 2004-377217 JP 2004-377217	20041227 20041227		

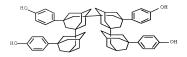
OTHER SOURCE(S): MARPAT 145:124943

ED Entered STN: 13 Jul 2006

GI



- AB The tetraadamantanephenols, useful for highly functional polymeric materials, are I [R1-R10 = H, halo, (halo)alkyl, OH, (halo)alkoxy, (substituted) C6H4OR11; R11 = H, protective group, salt-forming atom or atomic group; ≥1 of R1-R10 = (substituted) C6H4OR11]. Thus, 3,5',5'',3'''-tetrabromo-1,1':3',1'':3'',1'''-tetraadamantane (manufactured from 3-bromo-1,1'biadamantane in 2 steps) was treated with PhOH to give 75% 3,5',5'',3'''tetrakis(4-hydroxyphenyl)-1,1':3',1'':3'',1'''- tetraadamantane. ΙT 897364-78-2P
  - (manufacture of tetraadamantanephenols) 897364-78-2 HCAPLUS
- RN CN Phenol, 4,4',4'',4'''-[1,1':3',1'':3'',1'''-
- quatertricyclo[3.3.1.13,7]decane]-3,3''',5',5''-tetrayltetrakis- (9CI) (CA INDEX NAME)



35-2 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 24

897364-78-2P 897364-79-3P

(manufacture of tetraadamantanephenols)

L31 ANSWER 15 OF 17 HCAPLUS COPYRIGHT 2008 ACS on STN ACCESSION NUMBER: 2006:578216 HCAPLUS Full-text

DOCUMENT NUMBER: 145:46371

TITLE: Bisaminophenol compounds for low dielectric resins

INVENTOR(S): Izumi, Atsushi

PATENT ASSIGNEE(S):

Sumitomo Bakelite Co., Ltd., Japan SOURCE: Jpn. Kokai Tokkyo Koho, 27 pp.

CODEN: JKXXAF DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT:

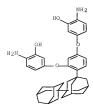
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.		DATE		
JP 2006151936	A	20060615	JP 2005-24381		20050131		
PRIORITY APPLN. INFO.:			JP 2004-314655	A	20041028		

OTHER SOURCE(S): MARPAT 145:46371

ED Entered STN: 16 Jun 2006

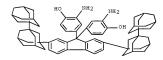
- AB The present invention relates to diamondoid structure-containing bisaminophenols. Thus, 116 mmol 1-bromoadamantane and 118 mmol 1,3dihydroxybenzene were refluxed at 130° for 24 h to give 23.0 g 4-(1adamantyl)-1,3-dihydroxybenzene, 22.0 g of which was mixed with 44.4 g 2benzyloxy-4-fluoronitrobenzene and 37.3 g potassium carbonate in 150 mL DMF and reacted at 135° for 12 h, 55.0 g of the resulting 4-(1-adamantvl)-1.3bis(4-nitro-3- benzyloxyphenoxy)benzene was hydrogenated in the presence of Pd/C to give 4-(1-adamantv1)-1.3-bis(4-amino-3-hydroxyphenoxy)benzene, showing dielec. constant 2.8.
- 890404-06-5P 890404-08-7P 890404-14-5P ΙT 890404-18-9P
- (preparation of bisaminophenol compds. for low dielec. resins) 890404-06-5 HCAPLUS RN
- CN Phenol, 3,3'-[(4-[1,1'-bitricyclo[3.3.1.13,7]decan]-3-yl-1,3phenylene)bis(oxy)lbis[6-amino- (9CI) (CA INDEX NAME)



- RN 890404-08-7 HCAPLUS
- CN Phenol, 3,3'-[[4,6-bis([1,1'-bitricyclo[3.3.1.13,7]decan]-3-y1)-1,3phenylene]bis(oxy)]bis[6-amino- (CA INDEX NAME)



- RN 890404-14-5 HCAPLUS
- CN Phenol, 4,4'-[2,7-bis([1,1'-bitricyclo[3.3.1.13,7]decan]-3-yl)-9H-fluoren-9-ylidene]bis[2-amino-(9CI) (CA INDEX NAME)



- RN 890404-18-9 HCAPLUS
- CN Phenol, 3,3'-[[2,7-bis([1,1'-bitricyclo[3.3.1.13,7]decan]-3-y1)-9H-fluoren-9-ylidene]bis(4,1-phenyleneoxy)]bis[6-amino- (9CI) (CA INDEX NAME)

PAGE 1-A

PAGE 2-A

CC 35-2 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 76
17 850404-04-3P 890404-05-4P 890404-06-5P 890404-07-6P
899404-08-7P 890404-09-8P 890404-10-1P 890404-13-4P
999404-14-5F 890404-16-7P 890404-18-9P

890404-19-0P 890404-20-3P 890404-22-5P 890404-24-7P 890404-26-9P 890404-37-0P 890404-29-2P 890404-31-6P 890404-33-9P 890404-31-6P 890404-33-4P 890404-31-6P 890404-39-4P 890404-41-8P 890404-42-9P

(preparation of bisaminophenol compds. for low dielec. resins)

L31 ANSWER 16 OF 17 HCAPLUS COPYRIGHT 2008 ACS on STN ACCESSION NUMBER: 2004:355223 HCAPLUS Full-text DOCUMENT NUMBER: 140:383102

TITLE: Photoresist base material, method for purification thereof, and photoresist compositions containing

the same

INVENTOR(S): Ueda, Mitsuru; Ishii, Hirotoshi PATENT ASSIGNEE(S): Idemitsu Kosan Co., Ltd., Japan

SOURCE: PCT Int. Appl., 56 pp. CODEN: PIXXD2

DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

										APPLICATION NO.								
										WO 2003-JP11137								
	110											BG,						,,,
												EC,						
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			SY,	TJ,	TM.	TN.	TR.	TT.	TZ,	UA,	UG,	US,	UZ,	VC,	VN,	YU,	ZA,	
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			BY,	KG,	KZ,	MD,	RU,	TJ,	TM,	AT,	BE,	BG,	CH,	CY,	CZ,	DE,	DK,	
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			SI,	SK,	TR,	BF,	ВJ,	CF,	CG,	CI,	CM,	GA,	GN,	GQ,	GW,	ML,	MR,	
			NE,	SN,	TD,	TG												
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	AU	2003	2618	65		A1		2004	0504		AU 2	2003-	2618	65		2	0030	901
	EP	1553	451			A1		2005	0713		EP 2	2003-	8088	72		2	0030	901
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		1688				A					CN 2003-824240					20030901		
		2820																
		2005				A1		2005	1208								0050	
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											JP 2	2003-	1124	58		A 2	0030	417
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											WU Z	:003-	OLIT	13/		W 2	0030	30T

OTHER SOURCE(S):

MARPAT 140:383102

ED Entered STN: 30 Apr 2004

AB The invention relates to photoresist base materials consisting of extreme UV sensitive-organic compds. represented by the general formula (B-X)1(C-Y)m(D-Z)nA: [wherein A is a central structure consisting of an aliphatic group having C1-50, an aromatic group having C6-50 carbon, an organic group bearing both, or an organic group having a cyclic structure formed by repetition of these groups; B to D are each an extreme UV sensitive group, a group exhibiting a reactivity on the action of a chromophore sensitive to extreme UV rays, a C1-50 aliphatic or C6-50 aromatic group having such a group, an organic group having both groups, or a substituent having a branched structure; X to Z are each a single bond or an ether linkage; 1 to n are integers of 0-5 satisfying the relationship: 1 + m + n <u>>>(u> 1; and A to D may each have a heteroatom-bearing substituent]. The invention provides photoresist base materials and photoresist compns. which enable ultrafine lithog, with extreme UV rays or the like and is suitable for use in semiconductor device fabrication.

TT 683227-73-8P

(photoresist base material, method for purification thereof, and photoresist compns. containing the same) 683227-73-8 HCAPLUS

CN Phenol, 4,4',4''-[1,3,5-benzenetriyltris(oxytricyclo[3.3.1.13,7]decane-3,1-diyloxy)]tris- (9CI) (CA INDEX NAME)

PAGE 1-A

PAGE 2-A

IC ICM G03F007-039

ICS C07C039-17; C07C069-736; C07D309-04

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 76

IT 65338-98-9DP, tetrahydropyranyl and benzyl derivative ethers 125748-07-4P, Calik[4]resorcinarene 211427-64-4P 683227-72-7P 683227-73-6P 683227-74-9P 683227-75-0P 683227-76-1P

(photoresist base material, method for purification thereof, and

photoresist compns. containing the same)

REFERENCE COUNT: 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L31 ANSWER 17 OF 17 HCAPLUS COPYRIGHT 2008 ACS on STN ACCESSION NUMBER: 2003:638126 HCAPLUS Full-text

DOCUMENT NUMBER: 140:111118

TITLE: Synthesis and conformations of adamantylated

calix[5]- and -[6]arenes

AUTHOR(S): Shokova, E. A.; Khomich, E. V.; Akhmetov, N. N.;

Vatsuro, I. M.; Luzikov, Yu. N.; Kovalev, V. V.

CORPORATE SOURCE: Faculty of Chemistry, Moscow State University.

Moscow, 119992, Russia

SOURCE: Russian Journal of Organic Chemistry (Translation

of Zhurnal Organicheskoi Khimii) (2003), 39(3),

368-383

CODEN: RJOCEQ; ISSN: 1070-4280

PUBLISHER: MAIK Nauka/Interperiodica Publishing
DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 140:111118

ED Entered STN: 17 Aug 2003

AB Procedures have been developed for the preparation of completely and partially adamantylated calix[n]arenes (n = 5, 6) by reaction of 3-R-substituted 1-hydroxyadamantanes (R = H, 4-MecGH4, 4-MesO2CGH4, 4-H0-3-H0COCGH3, HOCOCH2) with p-H-calix[n]arenes (n = 5, 6) and 5,11,23,29-tetra-tert-butylcalix[6]arene in trifluoroacetic acid. Lower- and upper-rim modification of the prepared compds. has been studied. According to HH NMR data, adamantylcalix[6]arenes possessing carboxymethyl groups in the adamantane moieties are characterized by reduced conformational mobility.

IT 647832-58-4P 647832-59-5P 647832-61-9P 647832-63-1P 647632-64-2P

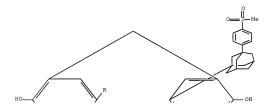
(preparation and conformations of adamantylated calix[5] - and -[6] arenes)

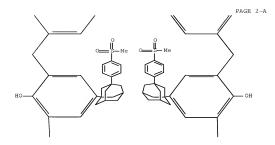
RN 647832-58-4 HCAPLUS

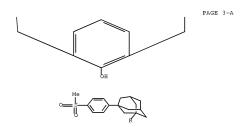
CN Hexacyclo[25.3.1.13,7.19,13.115,19.121,25]pentatriaconta-1(31),3,5,7(35),9,11,13(34),15,17,19(33),21,23,25(32),27,29pentadecaene-31,32,33,34,35-pentol, 5,11,17,23-tetrakis[3-[4-

(methylsulfonyl)phenyl]tricyclo[3.3.1.13,7]dec-1-yl]- (CA INDEX NAME)

PAGE 1-A







RN 647832-59-5 HCAPLUS

CN Heptacyclo(31.3.1.13,7.19,13.115,19.121,25.127,31|dotetraconta1(37),3,5,7(42),9,11,13(41),15,17,19(40),21,23,25(39),27,29,31(38),33,
35-octadecaene-37,38,39,40,41,42-hexol,
5,11,17,23,29-pentakis(3-[4(methylsulfonyl)phenyl|tricyclo(3.3.1.13,7]dec-1-yl]- (9CI) (CA INDEX

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 647832-61-9 HCAPLUS

NAME)

CN Hexacyclo[25.3.1.13,7.19,13.115,19.121,25]pentatriaconta1(31),3,5,7(35),9,11,13(34),15,17,19(33),21,23,25(32),27,29pentadecaene-31,32,33,34,35-pentol,
5,11,17,23,29-pentatks13-[4(methylsulfonyl)phenyl|tricyclo[3.3.1.13,7]dec-1-yl]- (9CI) (CA INDEX



PAGE 3-A

RN 647832-63-1 HCAPLUS

CN Heptacyclo(31.3.1.13,7.19,13.115,19.121,25.127,31]dotetraconta1(37),3,5,7(42),9,11,13(41),15,17,19(40),21,23,25(39),27,29,31(38),33,
35-octadecaene-37,38,39,40,41,42-hexol,
5,11,17,23,29,35-hexakis[3-(4-methylphenyl)tricyclo[3.3.1.13,7]dec-1yl]-(9C1) (CA INDEX NNBE)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 647832-64-2 HCAPLUS

NAME)

CN Heptacyclo(31.3.1.13,7.19,13.115,19.121,25.127,31|dotetraconta1(37),3,5,7(42),9,11,13(41),15,17,19(40),21,23,25(39),27,29,31(38),33,
35-octadecaene-37,38,39,40,41,42-hexol,
5,11,17,23,29,35-hexakis(3-[4(methylsulfonyl)phenyl|tricyclo(3.3.1.13,7)|dec-1-yl]- (9CI) (CA INDEX

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CC 25-29 (Benzene, Its Derivatives, and Condensed Benzenoid Compounds) Section cross-reference(s): 24

IT 647832-58-4P 647832-59-5P 647832-60-8P

647832-61-9P 647832-63-1P 647832-64-2P 647832-66-4P 647832-68-6P 647832-69-7P 647832-70-0P

647832-72-2P 647832-73-3P 647832-74-4P 647832-75-5P 647832-76-6P 647832-79-9P 647832-80-2P 647832-82-4P

647832-83-5P 647832-86-8P

(preparation and conformations of adamantylated calix[5]- and

-[6]arenes) REFERENCE COUNT:

29 THERE ARE 29 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

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ACT LEE208/A

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L9 STR L7 T-10 50 SEA SSS SAM L9 L11 STR L5

12 SEA SSS SAM L9 AND L11 L12 L13 STR L11

L14 STR L9 L15 0 SEA SSS SAM L14 L16 6945 SEA SSS FUL L9 AND L11

L17

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L29 56 SEA ABB=ON PLU=ON L23 NOT L28

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